SH&G

December 28, 1983
13155

Central Intelligence Agency
New Building Project Office
Room 4E50
CIA Headquarters Building
Washington, DC 20505

STAT Attention: [redacted]

Re: Chiller and Cooling Tower Load Analysis
Log 341

Gentlemen:

This letter is in response to your 20 Dec 83 letter.

Enclosed is a chart tabulating the chiller and cooling tower loads for use in describing how the system operates.

Currently, we have a Bid Package of six 1,350 ton chillers for 8,100 tons plus one existing 1,400 ton unit and one existing 1,400 ton unit for redundancy providing 9,500 tons of refrigeration with a 1,400 ton standby unit. On your last visit to our office, we presented two options of six machines at 1,300 tons (7,800 tons) or five machines at 1,600 tons (8,000 tons).

With the seventh cooling tower cell redundant, the six cells have a maximum capacity of 9,250 tons at 78 degrees W. B.

Upsizing the chillers from 1,300 to 1,350 tons provides a site chiller capacity of 250 tons in excess of cooling tower capacity.

Since this is an incremental overage and is in excess of site load, an additional cell on the tower is not recommended; rather, should the site load increase by this amount, it is recommended that on those infrequent days when design load would be reached, the redundant cell be operated.

The total on site cooling load is 9,250 tons which equals the six tower cell capacity. If further on site refrigeration is needed in the future, the chillers as specified will provide an additional 250 tons but the redundant cooling tower cell will be required to handle this load. We recommend proceeding this way.

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Architects Engineers Planners
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The 78 degree wet bulb design does not require an increase in cooling tower cell capacity.

We hope this answers your questions. If you need further explanation, please give me a call.

Very truly yours,

Wm. Everett Medling, AIA
Project Manager

WEM:clm
Enclosure

cc: J. Livingston
J. Yorke

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## CHILLER AND COOLING TOWER LOAD TABULATION

| Chillers | | Cooling Tower | |
|---|---|---|---|
| 6 New at 1,350 tons | = 8,100 tons | 6 Cells at 1,540 tons | = 9,250 tons |
| 1 Existing at 1,400 tons | = 1,400 tons | | |
| Chiller Capacity | 9,500 tons | Cooling Tower Capacity | = 9,250 tons |
| 1 Existing at 1,400 tons (redundant) | = 1,400 tons | 1 Cell at 1,540 tons (redundant) | = 1,540 tons |
| Total Chiller Capacity with Redundancy | 10,900 Tons | Total Cooling Tower Capacity with Redundancy | 10,790 Tons |